REMARKS

This amendment is in response to the Official Action mailed January 20, 2004. In the present paper, Applicants have amended claim 9. The amendment is fully supported in the specification. Claims 1-11 and 13-24 are now presented for the Examiner's consideration in view of the following remarks:

The Present Application

The present application is directed to a wireless network, and, more particularly, to a wireless network that permits use by a non-subscriber. The network can be used on a "walk-in" or a "pay as you go" basis.

Wireless network use today typically requires some sort of subscription or prearranged contract. Examples of such networks include wireless telephone systems, wireless personal communication systems, and wireless paging systems. Users of wireless communication devices such as mobile telephones, personal computers with wireless network interfaces and personal digital assistants (PDAs) with wireless capability must pre-arrange for network access with a wireless network provider and then identify themselves or their devices each time they use the network. The network provider ascertains from that identification that the user has a valid subscription before permitting the user to use the network.

The present application is directed to a network providing access to a user without requiring a prearranged subscription. Instead, payment or a guarantee of payment is obtained from the user for the immediate session only. A walk-in user can then access the network.

Claim 1 of the present application is directed to a method of providing temporary wireless services on a pay-per-use basis over a wireless local area network. The method includes the steps of providing a temporary wireless service connection to a non-subscribing user, determining a usage amount incurred by the user for the temporary wireless service connection; and charging the user for the determined usage amount for the temporary wireless service connection.

As noted in the specification, the non-subscribing user is not required to commit to a wireless service contract; instead, the services are provided on an "as-used" basis (specification, page 4, lines 6-8). Claim 1 requires that the wireless services are temporary; i.e., the services are not set up in a prearranged contract.

Further, according to the specification, a "subscriber" may sometimes be outside his local service area, where he may incur additional fees such as roaming and connection charges to connect to a network (spec. at p. 1, lines 21-24). The operator of the visited network charges the roaming subscriber's home account for the access time. In that situation, it is still necessary for the subscriber to "subscribe," or enter some prearranged contract, for wireless services. A "non-subscribing user," as that term is used in claim 1, therefore means a user that subscribes to no wireless access network, or at least none that is needed to gain network access to the claimed wireless local area network.

Amended claim 9 is directed to a method for providing a temporary wireless service connection to one or more users in a wireless local area network. In that method, a request is received from a user for temporary wireless service. A temporary wireless service connection is established for the user. In establishing the connection, a dynamic host configuration mechanism apportions an IP address to the connection for a predetermined time interval, and terminates the

connection when the predetermined time interval expires. A usage amount is determined for the temporary wireless service connection for the user. That usage amount is based at least in part on the number of minutes in the predetermined time interval. The user is then charged for the usage amount for the temporary wireless service connection.

The embodiment of claim 9 takes advantage of a "DHCP-like" protocol, which may be DHCP (dynamic host configuration protocol), to provide an IP address to a user on a "lease" basis; i.e., the IP address has a term that expires at the end of some predetermined time interval (specification, page 6, lines 1-11). The predetermined time period is the amount of time requested by the user. That arrangement provides an efficient way to limit wireless network access to a prepaid amount of time. For example, a user may use cash to prepay a limited session. The user is charged for the lease term of the IP address, and is unable to access the network outside that term.

The inventors have discovered a simple and powerful technique for permitting non-subscribers to use a wireless network. In one embodiment, the "DHCP-like" protocol enables the system to limit the time interval during which the user has network access, without adding custom protocol exchanges.

The Examiner has rejected claims 1 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,571,221 to Stewart (Stewart) in view of U.S. Patent No. 6,330,443 to Kirby et al. (Kirby). Claims 2, 8, 21 and 22 are rejected as unpatentable over Stewart and Kirby in view of U.S. Patent No. 6,473,411 to Kumaki et al. (Kumaki). Claims 3-6 are rejected as unpatentable over Stewart and Kirby in view of U.S. Patent No. 6,480,485 to Kari et al. (Kari). Claim 7 is rejected as unpatentable over Stewart and Kirby in view of U.S. Patent No. 6,496,499 to Hamilton et al. (Hamilton). Claim 11 is rejected over Stewart in view of Kirby and Kumaki.

Claims 13-16 are rejected over Stewart and Kumaki in view of U.S. Patent No. 6,490,443 to Freeny et al. (Freeny). Claim 18 is rejected over Stewart and Kumaki further in view of Kari. Claims 23 and 24 are rejected over Stewart and Kumaki and further in view of Kirby. Applicants respectfully submit the claims as amended are novel and non-obvious for the reasons stated below, and that all the claims of the present application are in condition for allowance.

The Stewart *Patent*

Stewart discloses wired and wireless network access models in which digital certificates are used to verify the identity of a subscriber. Access is provided only for subscribers, and the disclosure uses the terms "mobile user" and "subscriber" interchangeably (Stewart, col. 3, lines 26-29). The mobile user in the Stewart system has an identification code to allow the system to recognize the user before permitting access (Stewart, col. 6, lines 10-32). Stewart discloses the use of a digital certificate for securely exchanging authentication information (e.g., Stewart, col. 11, lines 24-31).

"Charging information," for use in charging the subscriber for network access, is stored in a database server in the network access system for retrieval when the subscriber accesses the network (Stewart, col. 12, lines 22-32). The charging information may include information regarding participation in incentive programs, or may reflect the amount of available network access time available for a particular subscriber. The database server may also store demographic information about the subscriber (Stewart, col. 12, lines 10-21). Such a system presupposes that the user is a subscriber that has previously registered or contracted with the network provider to provide wireless access.

Stewart does not teach or suggest any use of the DHCP protocol, and specifically does not disclose the use of DHCP in limiting the duration of a particular connection by limiting the lease time available on an IP address.

The Kirby *Patent*

Kirby is directed to a cellular or other telecommunications network, and in no way relates to a wireless local area network.

Kirby is further directed to the exchange of debit information between wireless telecommunication networks. For example, a subscriber in one wireless cellular network is able to roam in a non-subscription service wireless cellular network and have his home account debited, based on the identity of the subscriber's wireless unit (Kirby, col. 10, lines 26-30). The subscriber is recognized in the non-subscription service network because origination data messages from the wireless device (debit unit 80c) are transmitted from the non-subscription service network C 60 to a national service hub 70, which recognizes the device and authorizes the communication (col. 22, line 61 – col. 24, line 28; Fig. 4).

It is therefore necessary for the user of the wireless device to subscribe to a communications service that exchanges data with the national service hub 70. In other words, a "walk-in" wireless device user, having no prearranged subscription with any carrier, would not be authorized to use the system of Kirby.

Kirby furthermore does not disclose the use of any dynamic host configuration or "DHCP-like" protocol, and does not discuss the assignment of IP addresses for limited time intervals.

The Kumaki *Patent*

Kumaki discloses a system for realizing handoff between cells in a wireless cellular telecommunications network. No wireless LAN is disclosed. Instead, the wireless portion of the described network is a cellular telecommunications network.

One feature of the Kumaki system is the ability to provide an IP data connection and to charge for use of that connection based on connection time. Kumaki teaches allocating an IP address upon receiving an IP address allocation request message from the mobile unit (Kumaki, col. 18, lines 23-35). The IP address is released upon receipt of an IP address release message from the mobile terminal (col. 18, lines 36-40). Connection time is then calculated as the time between allocation and release (col. 18, lines 40-49).

Importantly, the Kumaki system does not use the end of the DHCP lease term to terminate the connection. Instead, Kumaki terminates the connection before the end of the DHCP lease upon request from the mobile user.

Discussion

Claims 1-8, 21 and 22

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. M.P.E.P. § 2143.03 (*citing In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

The Examiner has rejected claim 1 of the present application as unpatentable over Stewart in view of Kirby. Applicants submit that the elements of claim 1 are neither taught nor suggested by the cited references and that claims 1-8, 21 and 22 are therefore patentable.

The first step of claim 1 recites providing temporary wireless services to a non subscribing user. In contrast, Stewart discloses providing subscription wireless services to a subscriber. Stewart does not address or solve the problem addressed by the invention claimed in claim 1: permitting a non-subscribing user to use a wireless network connection.

Kirby has been cited by the Examiner as teaching a non-subscribing user. Kirby, however, requires that a user be a subscriber in a network, and, when the user travels to a non-subscription network, debits the home network through a national debit platform:

> It is advantageous for a service provider that offers debit units and other prepaid services to provide such telecommunication services to the debit units even when the debit units are roaming in the service area of another service provider that does not include a translator or other debit service system. For this description, assume that a customer is roaming with a debit unit 80c in the service area of non-subscription service provider C which operates wireless network C (visited network 60). The debit unit 80c has been registered in that network pursuant to the standard procedures regarding a wireless unit as described above in the registration section. When the customer attempts to make a call from the debit unit 80c, the debit unit 80c transmits a series of standard call origination data messages including selected data to the serving cell (not shown). As noted, these data messages are provided first to the serving cell, and then through a datalink to the appropriate mobile telephone switching center (mobile switch 64). (Step 1 of FIG. 4).
>
> . . .
>
> *Upon receipt of the communication to the designated telephone number, the national service hub 70 (and in particular, the national debit platform 72) preferably recognizes the debit unit*

> *80c as associated with a customer of a service provider which subscribes to a debit service system.* The national debit platform 72 may have information regarding the debit unit 80c gained during or as an adjunct process to the registration of the unit in network C 60.

(Kirby, col. 22, line 62 – col. 23, line 30 (*emphasis added*)). The Kirby system therefore requires a user to have a subscription in a network that subscribes to a national debit service system. A non-subscribing user would be unable to use the system of Kirby.

Because neither Stewart nor Kirby teaches a non-subscribing user as claimed, Applicants assert that claim 1 is patentable over the combination of Stewart and Kirby. Applicants further assert that the claims 2-8, 21 and 22, which depend from claim 1, are patentable for at least the same reasons as the parent claim.

Claims 17-20 and 24

The Examiner has rejected independent claim 17 as unpatentable over Stewart in view of Kumaki. Applicants assert that there is no suggestion to combine elements of the wireless local area network of Stewart with elements of the cellular telecommunications system of Kumaki. Kumaki addresses a problem of handoff between cells in a cellular network, and specifically how to correctly apportion charges where a user is roaming. No such problem arises in a wireless local area network.

The Examiner states that the combination would have been obvious "to enhance the packet performance of the packet radio network with charging information collected by nodes and forwarded to billing center." Stewart, however, does not deal with handoffs between nodes in a cellular network, as does Kumaki.

Applicants therefore submit that the Examiner has incorrectly combined the Stewart and Kumaki references, and that claim 17, and the claims depending from claim 17, are patentable for that reason.

Claims 9-11, 13-16, 23 and 24

The Examiner has rejected independent claim 9 as unpatentable over Stewart in view of Kumaki. Claim 9 has been amended in the present paper to require that

(1) the request for a temporary wireless service connection be "for a predetermined time interval"; and

(2) the dynamic host configuration mechanism "terminates the connection when the predetermined time interval expires."

Applicants submit that no prior art of which they are aware discloses the use of the limited time interval ("lease") feature of dynamic host configuration in enforcing a usage amount by terminating the connection at the end of the DHCP lease. Kumaki discloses termination upon receipt of a release command from the *user* (Kirby, col. 18, lines 36-44). In other words, while Kirby uses the IP address allocation time to calculate the charge, it does not use DHCP to terminate the connection after a predetermined time interval requested by the user, as claimed. Instead, the system of Kirby waits for the user to terminate the connection by sending a release message.

Because Kirby does not teach a user request for a predetermined time interval, in combination with a dynamic host configuration mechanism that terminates the connection when that time interval expires, Applicants assert that claim 9 is patentable over the cited combination

of art. Applicants further assert that claims 10, 11, 13-16, 23 and 24 are patentable for at least the same reasons.

As noted above, Applicants assert that the combination of Stewart and Kumaki is improper because there is no suggestion to combine the elements of the wireless local area network of Stewart with elements of the cellular telecommunications system of Kumaki. Applicants therefore assert that claim 9, and the claims depending from claim 9, are patentable for that additional reason.

Conclusion

Applicants therefore submit that none of the claims presented in the case are obvious over the cited art, and assert that claims 1-11 and 13-24 are now in condition for allowance. Applicants earnestly request that the Examiner issue a Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should not hesitate to contact the undersigned at the number provided below.

Respectfully,

By _____

Robert T. Canavan
Reg. No. 37,592
Telephone: 908-707-1568

Canavan & Monka LLC
805 Partridge Drive
Bridgewater, NJ 08807

Date: 1/10/05